

WHAT IS CLAIMED IS:

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1. A method for converting a sequence of motion images, captured by an image capture system, into a sequence of modified motion images providing the appearance of motion images captured by the same capture system and subsequently rendered in a post-processing stage to simulate a particular look, said method comprising the steps of:

capturing a sequence of motion images using a full resolution image sensor system, resulting in a captured sequence of full resolution unprocessed image signals corresponding to the motion images;
recording the full resolution unprocessed image signals;
providing the recorded full resolution unprocessed image signals to a post-production process where the images will be subsequently rendered in a post-processing stage to simulate a particular look;
applying, within the image capture system, one or more image processing algorithms to the unprocessed image signals to simulate the particular look rendered in the post-processing stage, thereby resulting in processed image signals; and
displaying the processed image signals as a sequence of modified images.

2. The method as claimed in claim 1 wherein the motion images are electronically captured by a digital camera.

3. The method as claimed in claim 1 wherein the motion images are on film and are electronically captured by a film scanner.

4. The method as claimed in claim 1 further including subsampling the captured sequence of full resolution unprocessed image signals, thereby resulting in subsampled unprocessed image signals; and applying one or more image processing algorithms to the subsampled unprocessed image signals to simulate the particular look, thereby resulting in processed image signals, and displaying the processed image signals as a sequence of modified images.

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5. The method as claimed in claim 1 wherein the step of displaying the processed image signals as the sequence of modified images occurs contemporaneously with the step of recording the full resolution unprocessed color signals.

6. The method as claimed in claim 1 wherein the captured sequence of full resolution unprocessed image signals comprises a captured sequence of full resolution unprocessed color signals.

7. The method as claimed in claim 1 wherein the step of applying one or more image processing algorithms to the subsampled unprocessed color signals includes application of at least one of the following algorithms: a colorimetry algorithm for matching the color reproduction produced by a particular set of image sensor responses with those of a traditional motion picture film; a contrast algorithm for matching the tone reproduction produced by a particular set of image sensor responses with those of a traditional motion picture film; a grain algorithm for adding noise that has the same probability distribution function as the graininess of a particular film stock; a sharpening algorithm for spatially filtering the captured image to simulate the modulation transfer function of a motion picture film; a surround algorithm for compensating for the visually perceived image contrast change due to the level of ambient light surrounding an image display; a framing algorithm for reducing or formatting the image data to conform within a specified image display aspect ratio; and an image compositing algorithm that can replace the background of a scene with another background.

8. The method as claimed in claim 1 wherein the particular look imparted by the post-processing stage is due to one or more special effects and the processed image signals are rendered to simulate the special effects look, as would be provided in the post-processing stage.

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9. The method as claimed in claim 1 wherein the processed image signals are rendered to simulate a particular look of a film stock, as would be provided in the post-processing stage.

10. A method for converting a sequence of motion images, captured by an image capture system, into a sequence of modified motion images providing the appearance of motion images captured by the same capture system and subsequently rendered in a post-processing stage to simulate a particular look, said method comprising the steps of:

capturing a sequence of color motion images using a full resolution image sensor system, resulting in a captured sequence of full resolution unprocessed color signals corresponding to the color motion images;

recording the full resolution unprocessed color signals;

providing the recorded full resolution unprocessed color signals to a post-production process where the images will be subsequently rendered in a post-processing stage to simulate a particular look;

subsampling the captured sequence of full resolution unprocessed color signals, thereby resulting in sub-sampled unprocessed color signals;

applying one or more image processing algorithms to the sub-sampled unprocessed color signals to simulate the particular look, thereby resulting in processed color signals; and

displaying the processed color signals as a sequence of modified images, said displaying occurring contemporaneously with the step of recording the full resolution unprocessed color signals.

11. A video tap apparatus integrated with a digital capture device for converting a sequence of motion images into a sequence of modified motion images providing the appearance of motion images captured by the same capture device and subsequently rendered in a post-processing stage to simulate a particular look, said apparatus comprising:

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a full resolution image sensor system for capturing a sequence of color motion images, resulting in a captured sequence of full resolution unprocessed color signals corresponding to the color motion images;

a recorder for recording the full resolution unprocessed color signals;

a camera output for providing the recorded full resolution unprocessed color signals to a post-production process where the images will be subsequently rendered in a post-processing stage to simulate a particular look;

a processor for applying one or more image processing algorithms to the unprocessed color signals to simulate the particular look, thereby resulting in processed color signals, whereby said simulation of the particular look occurs contemporaneously with the recording of the full resolution unprocessed color signals by said recorder; and

a display device for displaying the processed color signals as a sequence of modified images.

12. The video tap apparatus as claimed in claim 11 wherein the digital capture device is a digital camera.

13. The video tap apparatus as claimed in claim 11 wherein the digital capture device is a film scanner.

14. The method as claimed in claim 11 further comprising a sub-sampling processor for subsampling the captured sequence of full resolution unprocessed color signals, thereby resulting in sub-sampled unprocessed color signals; and wherein the processor applies one or more image processing algorithms to the subsampled unprocessed image signals to simulate the particular look, thereby resulting in processed image signals that are displayed by the display device.

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